

REMARKS

The Examiner is thanked for the thorough examination of the present application, the allowance of claims 11-19 and 30-38, and the indication that claims 6-8 and 25-27 contain allowable subject matter. Claims 1-38 remain pending in the present application. Claims 1, 2, 20 and 21 have been amended. For at least the reasons that follow, Applicant submits that all claims are now in condition for allowance.

Rejections Under 35 U.S.C. 102(e) of Claim 1

Claim 1 was tentatively rejected under 35 U.S.C. 102(e) as being unpatentable by Yee et al (USPN 2002/0171782, hereinafter “Yee”). In this regard, the Office Action that Yee discloses a liquid crystal display device as claim 1.

As amended, independent claim 1 recites:

1. A liquid crystal display device, comprising:
 - a first substrate and a second substrate opposing each other;
 - a liquid crystal layer formed between the first substrate and the second substrate;
 - a plurality of scanning bus lines and a plurality of data bus lines arranged in a matrix form to define a plurality of pixel areas;
 - a plurality of TFT devices formed in the plurality of pixels, respectively; and
 - a plurality of pixel electrode layers formed in the plurality of pixels, respectively;
 - wherein, in each pixel area, the pixel electrode layer is formed between a first data bus line and a second data bus line; and
 - wherein, in each pixel area, a first space between the first data bus line and a periphery of the pixel electrode layer is ***a liquid crystal reverse region***, and a second space between the second data bus line and a periphery of the pixel electrode is ***a liquid crystal non-reverse region***, and
 - wherein, ***the first space is larger than the second space.***

(*Emphasis Added*). Claim 1 patently defines over the cited reference for at least the reason that the cited reference fails to teach the features emphasized above.

As is clearly recited in claim 1, claim 1 comprises **a liquid crystal reverse region (the first space)**

and a liquid crystal non-reverse region (the second space). Wherein, the first space is larger than the second space.

Although Yee discloses in paragraph [0016] that a distance “a” between the data line 52 and the pixel electrode 54 on the left is smaller than a distance “b” between the data line 52 and the pixel electrode 54 on the right side, Yee does not disclose that a first space belonging to a liquid crystal reverse region is larger than a second space belonging to a liquid crystal non-reverse region.

Accordingly, the liquid crystal display device in claim 1 is clearly and patently different from the liquid crystal display device in Yee, for at least the reason that **Yee does not teaches that the liquid crystal reverse region is larger than the liquid crystal non-reverse region.** Reconsideration of this rejection is hereby respectfully requested.

Applicant respectfully submits that the reference (Yee et al) does not teach at least the features /limitation emphasized here in claim 1. Therefore, Applicant respectfully submits that claim 1 is in condition for allowance.

Rejections Under 35 U.S.C. 103(a) of Claims 1 and 20

Claims 1 and 20 were tentatively rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Applicant’s prior art in view of Yee et al (US 2002/0171782, hereinafter “Yee”). Claim 1 and 20 are independent claims, from which claims 2-10 and 21-29 depend. Applicant submits that claims 1 and 20 are patentable for the reasons discussed below, and therefore for at least the same reasons claims 2-10 and 21-29 are patentable.

The Office Action asserts that the combination of APA and Yee discloses a LCD device and fabrication method as defined claims 1 and 20. Applicant respectfully disagrees.

As amended, independent claim 1 recites:

1. A liquid crystal display device, comprising:
a first substrate and a second substrate opposing each other;
a liquid crystal layer formed between the first substrate and the second substrate;
a plurality of scanning bus lines and a plurality of data bus lines arranged in a matrix form to define a plurality of pixel areas;
a plurality of TFT devices formed in the plurality of pixels, respectively; and
a plurality of pixel electrode layers formed in the plurality of pixels, respectively;
wherein, in each pixel area, the pixel electrode layer is formed between a first data bus line and a second data bus line; and
wherein, in each pixel area, a first space between the first data bus line and a periphery of the pixel electrode layer is ***a liquid crystal reverse region***, and a second space between the second data bus line and a periphery of the pixel electrode is ***a liquid crystal non-reverse region***, and
wherein, ***the first space is larger than the second space***.

(*Emphasis Added*) Claim 1 patently defines over the cited art for at least the reason that the cited reference fails to teach the features emphasized above.

As is clearly recited in claim 1, the liquid crystal display device in claim 1 comprises **a liquid crystal reverse region (the first space) and a liquid crystal non-reverse region (the second space)**. Significantly, **the first space is larger than the second space**.

In contrast, as set forth above in the discussion of rejections under 35 U.S.C. 102, Applicant noted that Yee does not teach or otherwise disclose that a liquid crystal display device comprises a liquid crystal reverse region and a liquid crystal non-reverse region. Applicant also noted that **APA does not teach or otherwise disclose that a liquid crystal display device comprises a liquid crystal reverse region and a liquid crystal non-reverse region**.

Therefore, neither Yee nor APA teaches or reasonably suggests these features. Therefore, Applicant respectfully asserts that the combination of references is legally deficient for rendering these claims unpatentable.

Moreover, Yee teaches that the distances (a2, b2) between the pixel electrodes 132 and data

line 124 can be **kept uniform** for the purpose of improving the overlay property of the photolithographic masking (paragraph 0038, last six lines). As the combination of APA and Yee does not teach or suggest that **the liquid crystal reverse region is larger than the liquid crystal non-reverse region**, this claim is allowable over the cited references. Insofar as claims 2-10 depend from amended claim 1, these claims are also allowable at least by virtue of their dependency.

Likewise, as amended, independent claim 20 recites:

20. A fabrication method for a liquid crystal display device, comprising steps of:
providing a first substrate;
forming a plurality of scanning bus lines and a plurality of light-shielding layers overlying the first substrate;
forming a gate insulating layer overlying the first substrate to cover the scanning bus lines and the light-shielding layers;
forming a plurality of data bus lines overlying the gate insulating layer, in which the data bus lines and the scanning bus lines are arranged in a matrix form to define a plurality of pixel areas;
forming a plurality of TFT devices in the plurality of pixels, respectively; and
forming a plurality of pixel electrode layers overlying the passivation layer in the plurality of pixels, respectively;
wherein, in each pixel area, the pixel electrode layer is formed between a first data bus line and a second data bus line; and
wherein, in each pixel area, a first space between the first data bus line and a periphery of the pixel electrode layer is ***a liquid crystal reverse region***, and a second space between the second data bus line and a periphery of the pixel electrode is ***a liquid crystal non-reverse region***; and
wherein, ***the first space is larger than the second space***.

(Emphasis Added). Claim 20 patently defines over the cited art for at least the reason that the cited reference fails to teach the features emphasized above.

As clearly recited in claim 20, the liquid crystal display device in claim 20 comprises **a liquid crystal reverse region (the first space) and a liquid crystal non-reverse region (the second space)**.
Wherein, **the first space is larger than the second space**.

In contrast, and as set forth in the above discussion of claim 1, **neither Yee nor APA teaches or**

reasonably suggests the limitation that a liquid crystal display device comprises a liquid crystal reverse region and a liquid crystal non-reverse region. Therefore, Applicant respectfully asserts that the combination of references is legally deficient for rendering these claims unpatentable.

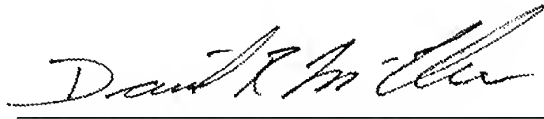
Accordingly, it is believed that the amended claim 20 is allowable over the cited reference. Insofar as claims 21-29 depend from amended claim 20, these claims are also allowable at least by virtue of their dependency.

A prompt and favorable action on the merits of this application is now respectfully requested.

No fee is believed to be due in connection with this amendment and response. If, however, any fee is deemed to be payable, you are hereby authorized to charge any such fee to Deposit Account No. 20-0778.

Respectfully submitted,

By:



Daniel R. McClure, Reg. No. 38,962

Thomas, Kayden, Horstemeyer & Risley, LLP
100 Galleria Pkwy, NW
Suite 1750
Atlanta, GA 30339
770-933-9500